



COMPUTER TRAINING

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VISUAL STUDIO

Course No. 4995

5 Days

Target Audience:

This course enables developers who are migrating from a different development language, an earlier version of Visual Basic .NET or Visual C#, or who have completed entry-level training and experience using Microsoft Visual Studio 2005, to gain in-depth guidance on programming the Microsoft .NET Framework versions 2.0 and 3.0 with Visual Studio 2005. It is designed for developers who already have professional programming experience.

Pre-requisites:

Before attending this course, students should have the following pre-requisites:

- Professional experience with programming in C, C++, earlier versions of Visual Basic or C#, Java, or another programming language.
- Familiarity with the Microsoft .NET Framework strategy.
- Familiarity with the .NET Framework versions 2.0 and 3.0.

Purpose:

After completing this course, students will be able to describe the .NET Framework; create applications with Visual Studio 2005; describe Visual Basic .NET and Visual C# language and syntax features; use essential object-oriented programming features; use advanced object-oriented programming features; explain security in the .NET Framework; access data by using ADO.NET; build Windows Presentation Foundation applications; describe distributed applications, and create distributed applications with Windows Communication Foundation; monitor .NET Framework applications by using instrumentation; compile, test, and deploy .NET Framework applications; interoperate with unmanaged code (optional); describe software design and development (optional).

Programming with the Microsoft .NET Framework Using Microsoft Visual Studio 2005

At the end of the course the delegate will be able to complete the following:

Overview of the Microsoft .NET Framework

- Introduction to the .NET Framework
- .NET Framework 3.0 Technologies

Skills:

- Describe the key features of the .NET Framework.
- Describe the .NET Framework 3.0 technologies.

Creating Applications with Visual Studio 2005

- Introduction to Visual Studio 2005
- Managing Solutions and Projects
- Managing the Integrated Development Environment
- Writing Code with Visual Studio 2005
- Lab: Creating Applications with Visual Studio 2005

Skills:

- Describe the key features of Visual Studio 2005.
- Manage solutions and projects.
- Manage the integrated development environment.
- Write code with Visual Studio 2005.

Examining Language and Syntax Features

- Syntax Basics
- Language Enhancements
- Lab: Examining Language and Syntax Features

Skills:

- Use fundamental language features in C# and Visual Basic, including variable declarations, conditional statements, loops, and exception handling.
- Use language enhancements introduced in Visual Studio 2005, including generics, partial types, and nullable types.

Essentials of Object-Oriented Programming

- Object-Oriented Programming Concepts
- Defining a Class
- Creating a Class Instance
- Lab: Essentials of Object-Oriented Programming

Skills:

- Describe the key features of object-oriented programming.
- Define a class.
- Create a class instance.

Advanced Object-Oriented Programming

- Advanced Object-Oriented Programming Concepts
- Implementing Inheritance
- Defining and Implementing Interfaces
- Creating and Using Delegates and Events
- Lab: Advanced Object-Oriented Programming

Skills:

- Describe advanced object-oriented programming concepts.
- Implement inheritance.
- Define and implement interfaces.
- Create and use delegates and events.

Security in the .NET Framework

- Security Overview
- Implementing Code Access Security
- Implementing Role-Based Security
- Using Cryptographic Services
- Lab: Security in the .NET Framework

Skills:

- Describe security in the .NET Framework.
- Implement code access security.
- Implement role-based security.
- Use the cryptographic services in the .NET Framework.

Accessing Data by Using ADO.NET

- Overview of Data Access
- Reading and Writing Relational Data
- Reading and Writing XML Data
- Lab: Accessing Data by Using ADO.NET

Skills:

- Describe the key features of data access in a .NET Framework application.
- Read and write relational data by using ADO.NET.
- Read and write XML data.

Building Windows Presentation Foundation Applications

- Introduction to Windows Presentation Foundation
- Introduction to XAML
- Programming Windows Presentation Foundation Applications
- Lab: Building Windows Presentation Foundation Applications

Skills:

- Describe the key features of Windows Presentation Foundation.
- Describe and use XAML.
- Program Windows Presentation Foundation Applications.



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Creating Distributed Applications

- Overview of Distributed Applications
- Creating and Consuming XML Web Services
- Building Windows Communication Foundation Services and Clients
- Lab: Creating Distributed Applications

Skills:

- Describe the options for creating distributed .NET Framework applications and the key features of Windows Communication Foundation.
- Create and consume XML Web services.
- Build Windows Communication Foundation services and clients.

Monitoring .NET Framework Applications by Using Instrumentation

- Introduction to Instrumentation
- Code Tracing and Debugging
- Performance Counters
- Event Logs
- Lab: Monitoring .NET Framework Applications by Using Instrumentation

Skills:

- Describe the key features of instrumentation in .NET Framework applications.
- Explain code tracing and debugging.
- Describe performance counters and explain how to use them.
- Describe event logs and explain how to write to an application event log.

Compiling, Testing, and Deploying .NET Framework Applications

- Introduction to Assemblies
- Overview of the Microsoft Build Engine (MSBuild)
- Testing .NET Framework Applications
- Deploying .NET Framework Applications by Using ClickOnce
- Deploying .NET Framework Applications by Using Windows Installer
- Lab: Compiling, Testing, and Deploying .NET Framework Applications

Skills:

- Describe assemblies and explain features of assemblies that relate to deployment.
- Explain how to use MSBuild to build an application.
- Describe the key features of application testing.
- Deploy applications by using ClickOnce.
- Deploy applications by using Windows Installer.

Interoperating with Unmanaged Code (Optional)

- Overview of Interoperability
- Calling Unmanaged Functions by Using Platform Invoke
- Calling COM Objects from Managed Code
- Lab: Interoperating with Unmanaged Code

Skills:

- Describe the options for interoperating with unmanaged code from a .NET Framework application.
- Call unmanaged functions by using Platform Invoke.
- Call COM objects from managed code.

Software Design and Development (Optional)

- Introduction to the Software Development Life Cycle
- Introducing the Microsoft Solutions Framework
- Developing Applications with the Capability Maturity Model Integration
- Introducing Agile Software Development
- Lab: Software Design and Development

Skills:

- Describe the software development life cycle.
- Describe the key features of the Microsoft Solutions Framework.
- Describe the development of applications with the Capability Maturity Model.
- Describe the key features of Agile Software Development.



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